26.7.95

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Dear Gian-Carlo and Renata,

Jim Cushing has passed on to me your comments on the paper of Patrick ~~and~~ La Rivière and myself.

I now think I understand your argument much more clearly, and <u>recognize that you have made no logical blunder.</u>

Setting aside the issues about determinism versus indeterminism in evaluating the relevant counterfactuals, the crucial result we can all accept is your formula (4) says

$*$ $(QM \wedge Compl) \supset \neg(OM-LOC) \vee \neg(ER-LOC)$

I completely agree that you can only deduce $\neg(ER-LOC)$ if we assume $(OM-LOC)$, and that under the assumption of $\neg(OM-LOC)$ one <u>cannot</u> deduce $\neg(ER-LOC)$.

The one point that I still do not understand is why $*$ helps with peaceful coexistence of quantum mechanics and special relativity. $\neg(OM-LOC)$ seems just as much at

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odds with relativity as $\neg(ER\text{-}LOC)$.

They both exhibit space-like parameter dependence, and the fact that $\neg(ER\text{-}LOC)$ is referred to by Einstein as "spooky" does not seem to amount to a convincing argument for preferring $\neg(QM\text{-}LOC)$ to $\neg(ER\text{-}LOC)$.

This is what led to our confusion in trying to reconstruct your argument as denying the validity of

$$(QM \cap Compl) \supset \neg(L\text{-}LOC)$$

We felt this denial must be required to make sense of your peaceful coexistence claims.

But I now see this was **not** what you were trying to do, but only to stress the nondeducibility of $\neg(ER\text{-}LOC)$ simpliciter.

In order to push the peaceful coexistence claim ourselves, we tried to undermine
* by identifying (admittedly controversially) an additional suppressed assumption of determinism.

I will now re-draft our paper, to see if

there is still something of interest
and clarification to be salvaged,
now that we are all agreed
on the logical points.

I have been very sorry to
miss the Bielefeld Conference.
My foch is improving slowly,
but is still very sore and painful.

With very best wishes

Michael